Boost

MATH FOR ECONOMICS
A DISCIPLINE COLLECTION

Math for
Economics

OUR MISSION

At Boost, our mission is to ensure no student loses motivation or leaves education because they were unable to access effective, relevant tutorial support when they needed it the most.

WHAT WE DO

Boost offers curated collections of short, topic level videos designed to mimic a private tutor experience. Our learning pathways improve student outcomes when used as an independent study resource, course prerequisite, exam preparation, or virtual tutor. Learning pathways can be customised to university or department curricula to ensure students get the information they need to succeed.

COLLECTION STATS

1,315
Videos

449
Assessment Questions

130
Hours

178
Learning Objectives

TOPIC	SUBTOPIC
The Real Function	The Concept of a Function
	The Linear Function (Lines) and Circles
	The Quadratic Function – Parabola
	Common Functions
	Translation (Shifting) and Reflection of Functions
	The Domain of Definition of a Function
	The Domain of Basic Functions
	The Domain of Logarithmic and Exponential Functions
	The Composition of Functions
	One-to-One Functions
	The Inverse of a Function
	Even and Odd Functions
	Piecewise-Defined Functions
	The Absolute Value Function
Introduction to Set Theory	Logic and Set Theory
	Operations on Sets

TOPIC	SUBTOPIC
The Limit of a Function	Introduction
	Technique 1 – Substitution
	Technique 2 – Factoring
	Technique 3 - Multiplying by the Conjugate
	Technique 4 - Function Tends to Infinity
	Technique 5 - X Tends to Infinity
	Technique 6 - Euler's Limit
	Technique 8 - The Sandwich Squeeze Theorem
	Technique 9 - Piecewise Functions
	Limit from Definition
The Continuity of a Function - The Intermediate Value Theorem	Continuity of a Function
	Points of Discontinuity
	The Intermediate Value Theorem
The Definition of the Derivative and One-Sided Derivatives	The Definition of the Derivative
	One-Sides Derivatives

TOPIC	SUBTOPIC
Calculating the Derivative of a Function	Basic Derivatives of Functions
	Derivative of Exponents and Logarithmic Functions
	Derivative of Power Functions
	Implicit Differentiation
	Calculations Using the Definition of Derivative
	The Derivative of an Inverse of a Function
	Logarithmic Differentiation
Tangents, Normal Lines and Linear Approximation	Tangent and Normal Lines - Basic Exercises
	Tangent and Normal Lines – Exercises with a Constant
	Tangent and Normal Lines of Implicit Functions
	Linear Approximation
L`Hopital`s Rule	Zero over Zero, Infinity over Infinity
	Zero Times Infinity
	Exponents: Infinity^Zero, Zero^Zero, One^Infinity
	Infinity Minus Infinity
The Shape of a Function - Curve Sketching	Extrema, Increase, Decrease
	Inflection, Convex, Concave
	Vertical Asymptotes
	Horizontal Asymptotes
	Oblique Asymptotes
	Curve Plotting

TOPIC	SUBTOPIC
Global Extrema	Global Extrema
Extrema Word Problems	Introduction to Extrema Word Problems
	Geometrical Problems
	Functions and Graphs Problems
	Business Applications Problems
	Pricing Problems
Rolle's Theorem and the Mean Value Theorem	The Mean Value Theorem
	Rolle's Theorem
Elasticity of Demand	Elasticity of Demand
The Indefinite Integral & Integrals - Derivative Contained	The Indefinite Integral
	Integrals - Derivative Contained
Integration by Substitution	Integration by Substitution
Integration by Parts	Integration by Parts
Integration of Rational Functions	Integration of Rational Functions
Definite Integrals, Inequalities and Riemann Sum	Definite Integrals
	Inequalities
	Riemann Sum and Integrability
Applications of the Definite Integral - Area and Curve Length	Areas
	Curve Length
Volume - Solids of Revolution	Volume - Solids of Revolution
Fundamental Theorem of Calculus	Fundamental Theorem of Calculus

TOPIC	SUBTOPIC
Improper Integrals	Improper Integrals
Functions of Several Variables	Functions of Several Variables
Partial Derivatives	Partial Derivative
Chain Rule – Multivariate	Chain Rule – Multivariate
Implicit Differentiation	Implicit Differentiation
Extrema in 2 Variables	Extrema in 2 Variables
Constrained Extrema	Formulating the Problem
	Solving the Problem
	Practice Questions
Global Extrema on a Closed and Bounded Set	Global Extrema on a Closed and Bounded Set
Homogeneous Functions and Euler's Theorem	Homogeneous Functions
	Euler's Theorem
Sequences	Introduction
	Convergence of a Sequence, Monotone Sequences
	Sandwich Theorem
	Recursive Sequences
	Euler Limit
	Ratio Test
	Root Test
	Limit of a Sequence - Limit Arithmetic
	Proving the Limit of a Sequence Using the Definition of a Sequence

TOPIC	SUBTOPIC
Infinite Series	Infinite Geometric Series
	The Harmonic Series and the P-Series
	Algebraic Properties of Series
	The Divergence Test
	The Integral Test
	The Limit Comparison Test
	The Ratio Test
	The Alternating Series Test
	Absolute and Conditional Convergence of Series
Double Integrals, Applications	Double Integrals, Applications
Lorenz Curve and Gini Index	Lorenz Curve and Gini Index

OUR CURATED COLLECTIONS

Subjects

Precalculus	Probability
Calculus I	General Chemistry
Calculus II	Organic Chemistry I
Statistics	Biochemistry

Disciplines

Math for Engineering
Math for Economics
Math for Medical Sciences

Content

✓ Bite-sized video tutorials help student learn at their own pace

✓ Step-by-step practice videos improve learning outcomes and practical understanding

✓ Curated courses may be assigned by instructors or taken by students independently

✓ Assessments measure student progress

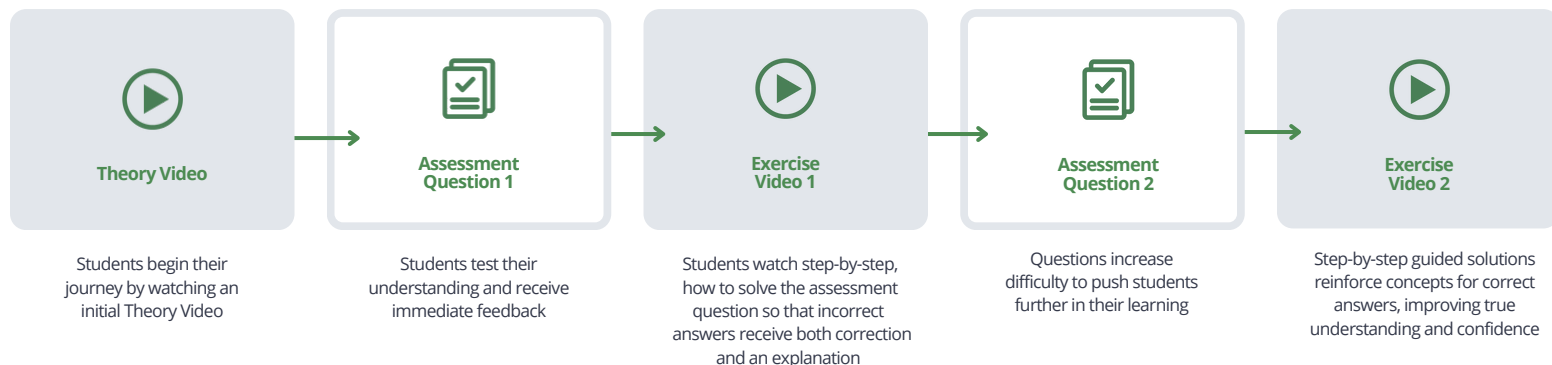✓ Customizable courses may be edited to suit the needs of specific learners

Flexibility

✓ Database of tutorial and practice videos provide students a boost in foundational math topics

✓ Flexible teaching resources for blended learning models

✓ Collection of curated online courses for use in blended learning or as prerequisites

✓ Editing tool to create and customize courses that meet your learners' needs

Technology

✓ Assign curated course playlists and assessments to your learners

✓ Track progress of your learners with live metrics and data visualization

✓ Create original courses from our library of over 5,000 videos and 1,700 questions

✓ Upload your own content to customize any course

✓ Search and save videos from the content library for future viewing

OUR COURSE FLOW

Theory Video → **Assessment Question 1** → **Exercise Video 1** → **Assessment Question 2** → **Exercise Video 2**

Students begin their journey by watching an initial Theory Video

Students test their understanding and receive immediate feedback

Students watch step-by-step, how to solve the assessment question so that incorrect answers receive both correction and an explanation

Questions increase difficulty to push students further in their learning

Step-by-step guided solutions reinforce concepts for correct answers, improving true understanding and confidence

Boost

Learn more at boost-proprep.com